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February 13, 2012

Mr. Gary D. Goeke
Chief, Environmental Assessment Section
Leasing and Environment (MS 5410)
Bureau of Ocean Energy Management (BOEM)
1201 Elmwood Park Boulevard
New Orleans, LA 70133-2394

Subject: EPA NEPA Review Comments on BOEM's DEIS for "Gulf of Mexico OCS Oil and Gas Proposed Western Planning Areas Lease Sales 229, 233, 238, 246, and 248; and Proposed Central Planning Area Lease Sales 227, 231, 235, 241, and 247"; CEQ #20110434

Dear Mr. Goeke:

The U.S. Environmental Protection Agency (EPA) has reviewed the subject Bureau of Ocean Energy Management (BOEM) Draft Environmental Impact Statement (DEIS) in accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. It is our understanding that BOEM proposes lease sales in the Gulf of Mexico (GOM) Outer Continental Shelf (OCS) for lease blocks in both the Central Planning Area (CPA) and the Western Planning Area (WPA). Since the proposed action impacts areas in Region 4 and Region 6 both EPA regions participated in this review.

The EPA has participated in several recent NEPA reviews for BOEM actions, including reviews of the Draft Programmatic Environmental Impact Statement (PEIS) for the proposed 2012-2017 Outer Continental Shelf Oil and Gas Leasing Program, the Draft Supplemental Environmental Impact Statement (DSEIS) for lease sale 216/222 in the CPA of the GOM OCS Region, and the SEIS for lease sale 218 in the WPA of the GOM OCS Region.

Based on our analysis of the above referenced proposed action, EPA rates this DEIS as **"EC-2" i.e., EPA has "Environmental Concerns and Request Additional Information"** in the Final EIS (FEIS). The EPA's rating system criteria can be found online at: http://www.epa.gov/oecaerth/nepa/comments/ratings.html. Our primary concerns associated with the proposed action are related to potential impacts to air, water quality, coastal ecosystems, and EJ populations. Detailed comments are enclosed with this letter which more clearly identifies our concerns and comments. We request that a dedicated section of the FEIS include specific responses to our comments.

Lastly, since several of the mitigation strategies and lease stipulations have yet to be determined, EPA request that BOEM provide both Regions 4 and 6 the opportunity to review and comment

on future NEPA actions (including EAs and CATEXs) associated with the above referenced lease sales.

EPA appreciates the opportunity to review the DEIS. Should BOEM have questions regarding our comments, please feel free to contact Dan Holliman of my staff at 404/562-9531 or holliman.daniel@epa.gov.

Sincerely,

Heinz J. Mueller
Chief, NEPA Program Office
Office of Policy and Management

U.S. EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR THE U.S. DEPARTMENT OF THE INTERIOR, BUREAU OF OCEAN ENERGY MANAGEMENT (BOEM) GULF OF MEXICO OUTER CONTINENTAL SHELF REGION WESTERN PLANNING AREAS LEASE SALES 229, 233, 238, 246, AND 248; AND PROPOSED CENTRAL PLANNING AREA LEASE SALES 227, 231, 235, 241, AND 247

BACKGROUND:

The Draft Environmental Impact Statement (DEIS) was prepared by the U.S. Department of the Interior, Bureau of Ocean Energy Management (BOEM), Gulf of Mexico (GOM) Outer Continental Shelf (OCS) Region for multiple lease areas in the Central and Western Planning Areas (CPA and WPA). A total of 10 lease sales are being proposed for the CPA and WPA. EPA understands that BOEM recognizes these lease sales as major Federal actions requiring the preparation of an EIS, and that each lease sale and associated activity is very similar in nature allowing BOEM to prepare one EIS for the multiple lease sales. As described by BOEM, the need for the proposed actions (lease sales) is to further the orderly development of OCS resources.[1]

ALTERNATIVES PROPOSED:

Alternatives for Proposed WPA Lease Sales 229, 233, 238, 246, and 248

Alternative A—The Proposed Action: This alternative would offer for lease all unleased blocks within the WPA for oil and gas operations, except the following:

> (1) whole and partial blocks within the boundary of the Flower Garden Banks National Marine Sanctuary; and
> (2) whole and partial blocks that lie within the former Western Gap and are within 1.4 nautical miles (nmi) north of the continental shelf boundary between the U.S. and Mexico.

The WPA encompasses about 28.58 million acres (ac). As of November 2011, approximately 21.2 million ac of the WPA sale area is currently unleased. The estimated amount of natural resources projected to be developed as a result of a proposed WPA lease sale is 0.116-0.200 billion barrels of oil (BBO) and 0.538-0.938 trillion cubic feet (Tcf) of gas.

Alternative B—The Proposed Action Excluding the Unleased Blocks Near Biologically Sensitive Topographic Features: This alternative would offer for lease all unleased blocks in the WPA sale area, as described for the proposed action (Alternative A), with the exception of any unleased blocks subject to the Topographic Features Stipulation.

Alternative C—No Action: This alternative is the cancellation of a proposed WPA lease sale. The opportunity for development of the estimated 0.116-0.200 BBO and 0.538-0.938 Tcf of gas that could have resulted from a proposed WPA lease sale would be precluded or postponed. Any potential environmental impacts resulting from a proposed lease sale would not occur or would

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[1] p. 1-3

be postponed. This is analyzed in the EIS for the 5-Year Program on a nationwide programmatic level.[2]

Alternatives for Proposed CPA Lease Sales 227, 231, 235, 241, and 247,
Alternative A (Preferred Alternative)—The Proposed Action: This alternative would offer for lease all unleased blocks within the CPA for oil and gas operations, with the following exceptions:

(1) blocks that were previously included within the Eastern Planning Area (EPA) and that are within 100 mi of the Florida coast;
(2) blocks east of the Military Mission line (86 degrees, 41 minutes west longitude) are not offered until 2022 as a result of the Gulf of Mexico Energy Security Act of 2006 (December 20, 2006);
(3) blocks that are beyond the U.S. Exclusive Economic Zone in the area known as the northern portion of the Eastern Gap; and
(4) whole and partial blocks that lie within the former Western Gap and are within 1.4 nmi north of the continental shelf boundary between the U.S. and Mexico.

The proposed CPA lease sale area encompasses about 63 million ac of the total CPA area of 66.45 million ac. As of November 2011, about 38.6 million ac of the CPA sale area are currently unleased. The estimated amount of resources projected to be developed as a result of any one proposed CPA lease sale is 0.460-0.894 BBO and 1.939-3.903 Tcf of gas.

Alternative B—The Proposed Action Excluding the Unleased Blocks Near Biologically Sensitive Topographic Features: This alternative would offer for lease all unleased blocks in the CPA, as described for the proposed actions, with the exception of any unleased blocks subject to the Topographic
Features Stipulation.

Alternative C—No Action: This alternative is the cancellation of one or more proposed CPA lease sales. The opportunity for development of the estimated 0.460-0.894 BBO and 1.939-3.903 Tcf of gas that could have resulted from a proposed CPA lease sale would be precluded or postponed. Any potential environmental impacts resulting from a proposed lease sale would not occur or would be postponed. This is analyzed in the EIS for the 5-Year Program on a nationwide programmatic level.[3]

EPA COMMENTS:

RANGE OF ALTERNATIVES AND SUMMARY TABLE
BOEM developed three alternatives for the two planning areas: 1) an action alternative 2) no action, and 3) the action alternative with exclusions of activities near biologically sensitive topographic features. EPA recommends that BOEM consider development of more alternatives,

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[2] Cited directly from DEIS p. 2-4
[3] Cited directly from DEIS p. 2-6 – 2-7

specifically, we recommend development of alternatives that combined more than one deferral area.

In addition, EPA recommends that BOEM include a summary table in the FEIS that outlines the alternatives (with preferred alternative identified). The summary table should include the potential effects from the proposed action on all resources discussed in the document. We believe that the alternatives summary table should summarize major features and significant environmental impacts of alternatives. The table could facilitate a better understanding of the alternatives, particularly distinctions between alternatives, and could provide a comparative evaluation of alternatives in a manner that sharply defines issues for the decision-maker and the public as required by NEPA.[4]

AIR

The EPA is responsible for ensuring compliance with the National Ambient Air Quality Standards (NAAQS) in the Gulf States of Texas, Louisiana, Mississippi, Alabama and Florida. In addition, EPA Region 4 is responsible for implementing and enforcing Clean Air Act (CAA) requirements for OCS sources offshore the state seaward boundaries of all areas of the Gulf of Mexico (GOM) east of 87'30" (*see* CAA section 328). Pursuant to the CAA and applicable federal regulations (see 40 CFR 55), OCS activities, such as exploratory drilling operations and production platforms are subject to the EPA requirements to obtain air quality preconstruction and operating permits. As such, the EPA will be using the DEIS prepared by BOEM for the 2012-2017 Outer Continental Shelf (OCS) Oil and Gas Central Planning Area Lease Sales as a decision making document for our required permitting actions. Based on a review of the information presented in the above referenced DEIS, we have the following comments on the air quality related analyses presented in the DEIS:

General Comments on Air Quality Impacts

The DEIS concludes for both the CPA and WPA that "emissions of pollutants into the atmosphere from routine activities associated with a CPA/WPA action are projected to have minimal impacts to onshore air quality because of the prevailing atmospheric conditions, emission heights, emission rates, and the distance of these emissions from the coastline," and that "regulations, monitoring, mitigation, and developing emissions related technologies would ensure these levels stay within the NAAQS."[5] EPA has reviewed the information provided in the DEIS and does not believe the analysis provides adequate information to support these broad conclusions for the following reasons:

1. No mitigation, monitoring or developing air pollution technologies are discussed in the DEIS.
2. The studies relied upon for the conclusions do not address all the pollutants and standards. In particular, the referenced studies and analyses do not evaluate or address compliance with the short term 1-hr NO_2, and SO_2 standards, nor do they address $PM_{2.5}$ NAAQS and no studies were cited that appear to include actual $PM_{2.5}$ or PM_{10} impact

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[4] 40 CFR 1502.14

[5] p. 2-14 and 2-42

modeling. Hence, a conclusion cannot be reached that the project impacts are well within the NAAQS. In addition, the impacts on short-term standards cannot be evaluated by average emissions and average facility fuel use data, as provided in the referenced studies.

3. Prevailing atmospheric conditions, emissions heights (including, short stacks on exploratory rigs), emissions rates (including concentrations of NO_x emissions from uncontrolled diesel engines that do not meet IMO & EPA Tier standards), and distance from the coastline (including lease blocks immediately adjacent to the seaward boundary) do not support the conclusions, without exception, that onshore impacts will be minimal.
4. The applicability of the DOI regulations that require monitoring and control technology evaluation, as well as BOEM evaluation and verification of air emissions and the air emissions inventory, is based on exemption thresholds that were established more than 30 years ago with less sophisticated air quality models than are currently available, and were not designed to protect the short term SO_2 and NO_2 standards, nor the $PM_{2.5}$ standards. In addition, these exemption thresholds are often 10 to 100 times greater than the thresholds applicable to sources onshore, in state tidelands, and sources east of 87.5 degrees longitude. For example, an OCS source 80 miles from shore has exempt emissions of approximately 2600 tpy of NO_x and PM under BOEM regulations. For exploratory drilling rigs, these exemption levels can be applied on a per well basis, rather than annual basis, allowing relatively high emission rates. It is not possible from the information presented to determine that such a source will not impact the NAAQS.
5. The air quality control regions to which the NAAQS apply extend to the state seaward boundaries, rather than the coastline. The proposed lease sale areas include areas immediately adjacent to the state seaward boundaries. Projected impact assessments have not been provided for these areas for all the NAAQS pollutants and standards.

EPA has the following general recommendations for the DEIS to ensure that the States, public and other stakeholders have adequate information to assess the air quality impacts of the proposed action:

1. EPA recommends that BOEM perform air quality impact analyses for all pollutants and standards that are specific to the lease sales and include this information in an appendix for public review. In the alternative, contemporary analyses by sources that have exceeded the exemption thresholds could be relied upon for assessments and expected impacts.
2. EPA recommends that BOEM verify that the exemption threshold formula, which BOEM relies upon to require air quality modeling, is adequate to ensure compliance with the NAAQS.
3. EPA recommends that the DEIS identify monitoring requirements, potential mitigation measures, and emerging technologies and discuss how these will ensure NAAQS compliance, as indicated in the DEIS.
4. EPA recommends that the potential impacts, variable impacts, and limitations of the studies relied upon in the DEIS be factored in to the conclusions regarding air quality impacts.

Specific Comments

Proposed Action (p. 1-26)

- The description of the regulatory jurisdiction indicates: "*for air emissions sources located east of 87.5 W. longitude and more than 25 mi from the States' seaward boundaries, sources are subject to Federal requirements for Prevention of Significant Deterioration (PSD).*" Sources beyond 25 miles from the states' seaward boundaries are required to meet the applicable federal requirements as specified in 40 CFR 52.13, which may include requirements different than or in addition to PSD, such as the Title V operating permit program and applicable New Source Performance Standards. EPA recommends dropping the limited reference to PSD or including the other potentially applicable federal requirements.

- This section describes the two-level hierarchy of evaluation criteria the BOEM uses to protect the NAAQS and indicates that the initial evaluation of worst-case emissions corresponds to the USEPA screening step, where the proposed activity emissions are checked against the screening thresholds or exemption levels. Pursuant to BOEM requirements, only sources that are above this threshold are required to perform air quality modeling, mitigate emissions and apply control technology. EPA's thresholds, however, are set by the Clean Air Act at 100 tons per year for Title V applicability and 100 to 250 tons per for PSD review. When PSD is triggered for the project, substantially lower thresholds (40 tpy of NO_x & SO_2, 10 tpy $PM_{2.5}$, 100 CO, etc.) trigger air quality modeling and BACT analysis. Sources over 250 TPY are required to apply BACT to all emissions units over these thresholds. Hence, essentially all sources are subject to control technology review. In contrast, BOEM's distance based exemption thresholds are often 2000 – 4000 tons - applied per project per pollutant, which in the case of exploratory drilling may occur over 40-90 days. This criterion allows sources with very high emissions rates to avoid assessment of onshore impacts at the project level tier, and a majority of sources are not subject to review or substantive air quality requirements. To avoid the implication that the level of review is similar, EPA recommends that the DEIS not refer to the screen step as analogous to the EPA PSD program.

- In addition, this section indicates that the projected contributions to on shore pollutant concentrations are also subject to the "same limits" as the USEPA applies to onshore areas under their PSD program. EPA believes the DEIS is referring to the PSD increments, which are not analogous to limits. This statement could be interpreted to imply that emission limits are established that are equivalent to EPA's PSD emissions limits, such as BACT. EPA recommends that this be clarified to avoid confusion.

Background/Introduction: WPA pg. 4-11 through 4-12 and CPA pg.4- 442 through 4-443:

- "*By far, most of the documented production of sour gas (i.e., high sulfur content) lies within 150 km (93 mi) of the Breton National Wilderness Area...Flaring of gas containing H_2S (sour gas) is of concern because it could significantly impact nearby onshore areas, particularly when considering the short-duration averaging periods (1 and 24 hr) for SO_2.*"pg. 4-11. The CPA analysis on pg. 4-442 adds: "*Natural gas from the Norphlet Formation in the northeastern*

portion of the CPA, just south of Alabama and Mississippi, tends to range between 40 and 140 ppm on the OCS..."

These statements imply that both proposed actions may significantly contribute to SO_2 levels. The Proposed Action sections and the Cumulative Impacts sections do not explicitly characterize the levels of SO_2, hence EPA recommends the later sections should provide such analysis.

- *"To prevent inadvertently exceeding established criteria for SO_2 for the 1-hour and 24-hour averaging periods, all incinerating events involving H_2S or liquid hydrocarbons containing sulfur are reported to BSEE and are evaluated individually for compliance with safety and flaring requirements."* WPA pg. 4-12 and CPA pg. 4-442

It is not clear how the compliance with safety and flaring requirements will protect air quality standards. In particular, safety and flaring requirements have not been described; therefore EPA recommends that the DEIS describe how these requirements will prevent a violation of the SO_2 increments.

<u>Proposed Action Analysis:</u> WPA pg. 4-13 and CPA pg.4- 443

- The first sentence in the WPA section references Table 4-2, found on Tables-50, in the third volume of the EIS. The corresponding CPA section references Table 4-64, found on Tables-148. Table 4-2 and 4-64 provide proposed emissions in tons per year for WPA and CPA, respectively. The tables do not clearly show how or where these numbers were generated. EPA recommends that these tables include footnotes explaining the calculations, or referencing studies that generated these numbers to provide more insight into the table's accuracy and relevance.

- In addition, throughout the sections on air quality the authors state the NAAQS increments will not be consumed. However, aside from ozone, no explicit modeling results are provided. Therefore, these conclusions appear unsubstantiated. EPA recommends that a table comparing the estimated concentration generated from the proposed WPA and CPA in ug/m^3 to the NAAQS would provide documentation supporting the conclusions that the projects will not interfere with attainment of the NAAQS.

- *"The BSEE regulations (30 CFR 250.303) establish 1-hour and 8-hour significance levels for CO. A comparison of the projected emission rate to the BSEE exemption level would be used to assess CO impacts. The formula to compute the emission rate in tons/yr for CO is $3,400 \cdot D^{2/3}$; D represents distance in statute miles from the shoreline to the source. This formula is applied to each facility."*

This paragraph alone does not provide enough information. This might preface a CO modeling analysis, but none follows. The significance levels mentioned in the first half apply to an area, while the formula is for a specific source. EPA suggests that a modeling analysis would need to use background and meteorological data in addition to the referenced formula to determine whether the project would exceed the CO significance level.

WPA pg. 4-14 and CPA pg.4-444

- *"Since future air emission from all sources in the area are expected to be about the same level or less, it is expected that the impact on visibility due to the presence of fine particulates would be minor."*

The DEIS does not provide adequate documentation to support the premise that air emissions from all sources in the area are expected to be about the same or less. For example, activities in the central GOM have increased as more area has opened for drilling.

WPA pg. 4-14 <u>Summary and Conclusion</u>:

- *"The OCD modeling results show that increases in onshore annual average concentrations of NO_x, SO_x, and PM_{10} are estimated to be less than the maximum increases allowed in the PSD Class II areas."*

None of the sections preceding this summary discuss a modeling analysis for PM_{10} and SO_x. Perhaps the modeling analysis was inadvertently removed. Page 4-13 has a detailed discussion of ozone only. EPA recommends that this statement be clarified.

WPA pg.4-14 through 4-16 and CPA pg. 4-445 through 4-448 <u>Impacts of Accidental Events</u>:

- *"The VOC emissions from the evaporation of spilled oil can contribute to the formation of particulate matter ($PM_{2.5}$). In-situ burning also generates particulate matter. Particulate matter can cause adverse human respiratory effects and can also result in a reduction of atmospheric visibility or haze."* pg.4-15. Corresponding in the CPA section, *"In-situ burning also generates particulate matter...The $PM_{2.5}$ concentrations in a plume could have the potential to temporarily degrade visibility in any affected PSD Class I areas (i.e., National Wilderness Areas and National Parks) such as the Breton National Wilderness Area in the CPA and other areas where visibility is important."* pg. 4-445. Also, *"Particulate matter from the flare would also affect visibility."* WPA pg. 4-16, and the CPA section continues with, *"Flaring or burning activities upwind of a PSD Class I area, e.g., the Breton National Wilderness Area in the CPA, could adversely affect air quality through increased SO_2 concentrations and reduced visibility."* *pg. 4-447.*

These statements imply that an accidental event will adversely impact visibility. However, the conclusion states that, *"Other emissions of pollutants into the atmosphere from accidental events as a result of a WPA proposed action are not projected to have significant impacts on onshore air quality because of the prevailing atmospheric conditions, emissions height, emission rates, and the distance of these emissions from the coastline. These emissions are not expected to have concentrations that would change onshore air quality classifications."* WPA pg. 4-16 corresponding CPA pg. 4-447. EPA suggests that as written, the conclusion does not reflect the

content of the section. If the DEIS provided a numerical analysis of visibility, then a definitive inference might emerge with more clarity.

Cumulative Impacts and Summary Conclusion: WPA pg.4-17 through 4-19 & CPA pg. 4-448 through 4-449

- *"In a MMS study, the modeling results indicate that the cumulative impacts are well within the PSD Class I allowable increment (Wheeler et al., 2008)."* WPA pg. 4-17 and CPA 4-448. This study is also cited on page 4-441 to show that the Class I increment for BNWA has not been consumed. Given the year of the study, it would not incorporate recently permitted sources, nor include emissions from sources located within the lease blocks covered in this DEIS, several of which are previously undeveloped areas located near Breton National Wilderness area. In addition, the analysis is reported to include only platforms and not exploratory operations. Hence, the EPA does not believe that it can be determined at this stage that impacts are "well within PSD increments" without more detailed analysis.

- *"Modeling tools for the transport and dispersion of air pollutants such as ozone, carbon monoxide, nitrogen dioxide, and PAH's are required to determine the fate and pollutant concentrations in the environment and subsequently for the assessment of the environmental impacts. It appears that these tools are currently not available for the application to the offshore environment, which is needed to be developed especially for the long-range transport of air pollutants."* While EPA concurs with the assessment that modeling is required to determine and assess the impacts of air emissions, EPA does not concur that such tools are currently not available for the offshore environment. Numerous air quality impact assessments have been performed for offshore projects, including PSD and NEPA impact analyses in the GOM for OCS and LNG projects, as well as projects offshore Alaska, California and Massachusetts.

CPA Section 4.2.1.1: pg.4- 442 <u>Impacts of Routine Events</u>

- *"During exploratory drilling operations, air emissions may be high enough to contribute to exceedances of the new short-term, 1-hour NO_x and SO_x NAAQS and, hence, may affect the onshore air quality."* This statement appears to directly contradict the conclusions in the executive summary and summary sections that emissions are expected to be well within the NAAQS. EPA recommends that the conclusions be revised to reflect these potential impacts.

<u>Compliance with Coastal Zone Management Act</u>

- The BOEM provides the State air pollution control agencies a table of projected emissions data in tons per project. However, impacts to the NAAQS cannot be assessed without impact modeling. It is not realistic to assume that States have the source specific data or resources to conduct project specific modeling for OCS drilling and production projects to determine coastal consistency. EPA is concerned that without source specific modeling performed by the applicants using refined data, adjacent states will not have the necessary information to ensure compliance with the NAAQS and CZMA, especially for the new lease areas adjacent to the state seaward boundaries. EPA requests that the DEIS address how analyses will be conducted to ensure compliance with the CZMA.

Description of Affected Environment

- The DEIS accurately indicates that EPA has recently adopted several revised NAAQS, including short term 1-hr standards for nitrogen dioxide and sulfur dioxide and a revised 8-hours ozone standard. In several sections, the DEIS indicates that these standards have been *"fully implemented."* While EPA has promulgated these standards, they have not been fully implemented by EPA and the States. EPA is concerned that the choice of the term "fully implemented" implies air quality protections are currently in place. However, the non-attainment areas have not yet been designated under these standards nor have states been required to revise their State Implementation Plans to implement the new standards. EPA recommends these references be revised to indicate that the standards have been "promulgated."

WATER QUALITY / NPDES

EPA regulates discharges associated with offshore oil and gas exploration, development, and production on OCS under the Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) permit program. Section 403 of the CWA requires that NPDES permits for discharges into territorial seas, the contiguous zone, and the oceans be issued in compliance with EPA's guidelines for determining the degradation of marine waters.

EPA recommends the insertion of the following language into the FEIS with regards to NPDES:

Permits issued under Section 402 0f the Clean Water Act for offshore activities must comply with any applicable water quality standards and/or federal water quality criteria as well as Section 403 of the Clean Water Act. Water Quality Standards consist of the water body's designated uses, water quality criteria to protect those uses and determine if they are being attained, and antidegredation policies to help protect high quality water bodies. Discharges from offshore activities near state water boundaries must comply with all applicable State Water Quality Standards.

Section 403 of the Clean Water Act requires that NPDES permits for discharges to the territorial seas (baseline to three miles), the contiguous zone, and the ocean be issued in compliance with EPA's regulations for preventing unreasonable degradation of the receiving waters. Prior to permit issuance, ocean discharges must be evaluated against EPA's published criteria for determination of unreasonable degradation. Unreasonable degradation is defined in the NPDES regulations (40 CFR 125.121[e]) as the following.

1. *Significant adverse changes in ecosystem diversity, productivity, and stability of the biological community within the area of discharge and surrounding biological communities.*
2. *Threat to human health through direct exposure to pollutants or through consumption of exposed aquatic organisms.*
3. *Loss of aesthetic, recreational, scientific or economic values, which is unreasonable in relation to the benefit derived from the discharge.*

In addition, there are two primary federal environmental statutes governing dredged material disposal. The Marine Protection, Research, and Sanctuaries Act (MPRSA, also called the Ocean

Dumping Act) governs transportation for the purpose of disposal into ocean waters. The Clean Water Act (CWA) Section 404 governs discharge of dredged or fill material into U.S. coastal and inland waters. EPA and the U.S. Army Corps of Engineers share responsibility for regulation of dredged material. EPA and the Corps are jointly responsible for management and monitoring of ocean disposal sites.

- The Corps issues permits under the CWA and MPRSA.
- EPA has the lead for establishing environmental guidelines/criteria that must be met to receive a permit under either statute.
- Permits for ocean dumping of dredged material are subject to EPA review and concurrence. CWA permits for dredged material discharge are subject to EPA review and veto, if EPA's environmental guidelines are not met.
- EPA is responsible for identifying recommended ocean disposal sites.

EPA recommends that this additional information regarding disposal of material into ocean waters be added to the FEIS.

WETLANDS AND COASTAL AREAS

Impacts to Coastal Areas: It is stated in the DEIS that: "Impacts from these operations are minimal due to requirements for the beneficial use of the dredged material for wetland and beach construction and restoration."[6] Beneficial use of dredged material is a commendable goal and we fully support increasing the amount of dredged material used beneficially for purposes of habitat restoration or enhancement. However, beneficial use is not a requirement and it is not a required form of mitigation. The goal should certainly be to minimize impacts and beneficial use is a recommended option for minimizing impacts. However, it cannot be assumed that the dredged material management plan for any particular dredging event will necessarily involve beneficial use or that the impacts from dredging will routinely be considered to be minimal, without a defined mitigation plan. A more accurate statement related to this situation is found in the next paragraph: "Strategic placement of dredged material from channel maintenance, channel deepening, and related actions can mitigate adverse impacts upon those localized areas."[7]

Primary Impacts of Oil Spills:[8] In order to present a more complete picture of the wetland impacts from the Deepwater Horizon oil spill, this section could include not only a discussion of the amount and type of oil affecting plants but also the different recovery scenarios between wetland plants that were oiled once versus those that were oiled repetitively during the course of the spill.

Coastal Restoration Programs:[9] The discussion about the Louisiana State Master Plan should not stop with the development of the 2007 plan. The updated draft 2012 Coastal Master Plan builds upon the earlier plan by proposing new modeling techniques and planning scenarios to

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[6] p. 2-16
[7] p. 2-44- Coastal Barrier Beaches and Associated Dunes Discussion
[8] p. 4-509
[9] p. 3-102

select from 145 of the projects deemed to be the highest performing options. Land loss rates and restoration costs are updated and geographic priorities for protection are included.
In this same section, the discussion of net land gain expected over the next 40 years includes an assumption that 179 CWPPRA projects will be completed by the end of the program authorization period in 2019. This conclusion should be qualified by an explanation that, while the program is authorized through 2019, Congress has postponed renewing the CWPPRA funding source and it is currently being sustained by Congressional continuing resolution. Under the current situation, CWPPRA funding for new construction projects is only expected to be available for an additional two to three years.

SPILL RESPONSE

Onshore Response and Cleanup:[10] It would be appropriate to include in this section the conclusions regarding the use of sand barrier berms as an oil spill response strategy found in the BOEM FSEIS for OCS Central Planning Area Lease Sales 216 & 222: "Given that current data indicate that the emergency berms in Louisiana were not effective in minimizing impacts from the DWH event and that the Presidential Oil Spill Commission counseled against future use of such berms (Oil Spill Commission, 2011a), BOEM does not expect that similar berms would be used as a response measure if a low-probability catastrophic event were to occur in the future."

Spill Response Activities:[11] This section should include a discussion of the impacts to sea turtles from the dredging operations associated with the construction of the barrier berms to the east and west of the mouth of the Mississippi River during the Deepwater Horizon (DWH) response efforts. This response activity resulted in the potential for exceeding both the lethal and nonlethal sea turtle "takes" for the New Orleans District of the Corps. Also of note, the sizes and age classes of the turtles killed or entrained at that time of year were unexpected for the areas where the dredging occurred.

Deepwater Response Capabilities: EPA continues to be concerned about response capabilities during catastrophic events such as the DWH. As new technologies and Best Management Practices (BMPs) to respond to deepwater spills are developed as a result of the DWH event, we encourage BOEM to discuss these in future NEPA documents and adopt as necessary to ensure adequate response capabilities for these types of events.

GOM HYPOXIA ZONE

EPA recommends that the discussion of the Gulf hypoxic zone off the Mississippi River[12] be updated. The areal extent of the Gulf of Mexico hypoxic zone for the summer of 2011 was estimated by the Louisiana Universities Marine Consortium (LUMCON) as covering 6,765 square miles. Record spring flooding of the Mississippi River was expected to result in one of the largest recorded occurrences but an average sized zone was evident following strong winds and waves associated with Tropical Storm Don.

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[10] Section 3.2.1.9.4
[11] p. 4-237
[12] p. 4-462

ENVIRONMENTAL JUSTICE AND SUBSISTENCE FISHING

EPA appreciates BOEM's efforts to address Environmental Justice (EJ) in Chapter 4. The EJ discussions focused on state and county demographics, employment, income, minority populations, and poverty rates. Since the DEIS is addressing actions that cover such a large area, it is difficult to identify direct impacts on EJ communities.

It is stated in the DEIS that: "Environmental justice implications arise indirectly from onshore activities conducted in support of OCS exploration, development, and production. Because the onshore infrastructure support system for OCS-related industry (and its associated labor force) is highly developed, widespread, and has operated for decades within a heterogeneous Gulf of Mexico population, the proposed actions are not expected to have disproportionately high or adverse environmental or health effects on minority or low-income people. The proposed actions would help to maintain ongoing levels of activity rather than expand them."[13] Although, we do not dispute that EJ communities in these coastal areas will feel indirect impacts from the purposed action, EPA is unclear of the overall purpose of this statement. One would assume there would be expansion of the existing infrastructure to accommodate drilling activities for these new lease areas, therefore there is a potential for additional impacts to be felt by the EJ community. EPA does however understand that EJ communities will not only see impacts but also benefits through job creation and increased economic activities in these areas. We recommend that BOEM more specifically address these impacts and benefits if possible in the FEIS and future NEPA associate with the proposed action.

If a catastrophic spill occurred in the WPA or CPA similar to the DWH event, GOM coastal residents would feel the impact, regardless of income or social status. BOEM does acknowledge that in an event similar to DWH, low-income and minority populations (EJ populations) would be impacted more severely than middle and upper-class populations. Moreover, because of the way of life in these coastal areas, much of the populations in these areas rely on subsistence fishing and hunting and therefore maybe less able to adapt during events such as the DWH spill.

It is stated in the DEIS that "Besides their economic reliance on commercial fishing and oystering, low-income and minority groups along the coast rely heavily on these fisheries and on other traditional subsistence fishing, hunting, trapping, and gathering activities to augment their diets and household incomes (e.g., see Hemmerling and Colten, 2003, for an evaluation of environmental justice considerations for south Lafourche Parish)."[14] EPA is concerned that the importance of subsistence fishing in these regions is not fully understood and that better quantification of these types of potential impacts from catastrophic spills on coastal populations (including EJ populations) is needed. EPA is encouraged that BOEM is currently funding a subsistence study of the Gulf Coast to better document subsistence distribution networks[15] and encourages BOEM to include the results of this study in the FEIS if available.

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[13] p. summary section - xv
[14] P. 4-414
[15] P. 4-421

MITIGATION

The DEIS states that "Application of lease stipulations will be considered by the Assistant Secretary of the Interior for Land and Minerals (ASLM). The inclusion of the stipulations as part of the analysis of the proposed action does not ensure that the ASLM will make a decision to apply the stipulations to leases that may result from a proposed lease sale, nor does it preclude minor modifications in wording during subsequent steps in the prelease process if comments indicate changes are necessary or if conditions warrant. Any stipulations or mitigation requirements to be included in a lease sale will be described in the Final Notice of Sale. Mitigation measures in the form of lease stipulations are added to the lease terms and are therefore enforceable as part of the lease."[16] EPA remains somewhat unclear on why mitigation stipulations are not specified for the preferred alternative, but are listed as mitigation strategies for the proposed action. EPA recommends that these stipulations be included in the proposed alternative allowing the public to adequately evaluate the proposed action and the proposed mitigation for that action. Alternatively, BOEM could provide additional information in the FEIS describing the process by which the ASLM adopts these mitigation stipulations for proposed lease sales and how and when the public would be able to provide comments on these stipulations added to the lease.

EDITORIAL COMMENTS

Page 1-5, Section 1.3, Table - Revisions should be made to the two citations for the Clean Water Act. The citation for the Clean Water Act should be listed as 33 USC 1251 *et seq*. The citation for the National Pollutant Discharge Elimination System is not Section 316(b), as listed, but is Section 402. Section 316(b) of the Clean Water Act relates to cooling water discharges, which might also be applicable to the proposed action. Other sections of the Clean Water Act may also apply to the proposed action. Therefore, it would be reasonable to list the correct citation for the Clean Water Act and, rather than correcting the citation for the NPDES program, delete that reference and let the reference to the entire Act stand alone. Likewise, the National Estuary Program would probably best be cited in this table as Clean Water Act Section 320 or P.L. 100-4, not as P.L. 104-4.

Page 3-99, Section 3.3.4.3, Maintenance Dredging and Federal Channels: This section should be corrected. The Mississippi River Gulf Outlet, although a former federally maintained navigation channel, was de-authorized by the U.S. Army Corps of Engineers in 2009 and is no longer a maintained navigation channel. Therefore, it should be deleted from the list of federal channels in Louisiana and should not be factored into the calculation for the combined length of federal channels.

Figure 3-5 – Hard to see OCS pipelines and other infrastructure depicted in figure. Recommend larger map with clearer depiction of pipelines and infrastructure.

Figure 3-29 and 3-30 – These figures are hard to interpret due to the legend being located in the middle of the map. Recommend shifting legend to one side of the map. Also, it is noted that significantly more spills are located in the CPA vs WPA. Recommend some text below figures explaining the reasoning for this difference.

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[16] **p.** Summary Section - ix

Table 3-7 – Recommend adding text below table explaining the increase deepwater drilling trend depicted in table. This is already described in the text.

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